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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,274	12/11/2001	Randolf von Oepen	JM-10 CIP	7012

35023 7590 01/22/2007

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EXAMINER	
HUGHES, ALICIA R	
ART UNIT	PAPER NUMBER
1614	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/015,274	VON OEPEN, RANDOLF	
	Examiner	Art Unit	
	Alicia R. Hughes	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) *1-13,17 and 18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-16 and 19-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1 December 2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

Claims 1-35 are pending and the subject of this Office Action.

Election/Restriction

Applicant's election of Group II, claims 14-20, in the response filed on 13 November 2006, is acknowledged. Examiner acknowledges the cancellation of claims 17 and 18 and the addition of claims 21-35, presented newly as part of Group II and examine them herein as part of the same. Because Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Objections to Specification

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). *See e.g.*, pages 56 and 57 of the specification, marked as Table 8. However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825, because it lacks any submission of a computer readable form sequence listing, a paper copy for the specification, a statements under 37 CFR §§ 1.821(f) and (g), and SEQ ID Nos. cited along with each sequence in the specification or figures.

Applicant is reminded that SEQ ID Nos. are not required in figures, *per se*. However, the corresponding SEQ ID Nos. are required in the Brief Description of the Drawings section in the specification. Applicant is also reminded that a CD-ROM sequence listing submission may replace the paper and computer readable form sequence listing copies.

The paper or compact disc copy of the Sequence Listing is an integral part of the application. If submitted on paper, the Sequence Listing must begin on a new page, should appear at the end of the application, and preferably should be numbered independently of the numbering of the remainder of the application. The new page that begins the "Sequence Listing" should be entitled "Sequence Listing." If not submitted as such at filing, the Sequence Listing must be inserted into the application *via* amendment, *e.g.*, by preliminary amendment. If submitted on compact disc, the specification must contain an incorporation by reference of the material on the compact disc in a separate paragraph, identifying each compact disc.

Applicant is given the same response time regarding this failure to comply as that set forth to respond to this Office Action. Failure to respond to this requirement may result in abandonment of the instant application or a notice of a failure to fully respond to this Office Action.

The title of the invention is not properly descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. At present, the title reads "[m]ethods and apparatus for localized administration of inhibitory moieties to a patient." However, the claims that make up the invention are drawn to a kit and are directed, in great part, to the inhibition of restenosis. Neither the kit nor the inhibition restenosis can be deduced from the title, currently.

Finally, the disclosure is objected to because of the following informalities: the word "is" should replace the word "us" in claim 29, line 2.

Appropriate correction is required.

Claim Rejections - 35 U.S.C. §112.1

The following is a quotation of the first paragraph of 35 U.S.C. §112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 14-16 and 21-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claim 14 is drawn to a kit for inhibiting restenosis in a patient vessel where the kit comprises, in pertinent part, a restenosis-inhibiting moiety. The specification is written broadly, simply advising over "[e]xamples of molecular entities useful as growth and/or restenosis inhibitors agents" (Specification, p. 81, lines 23-26 and Table 10, pp. 81-83) and further, defining a restenosis inhibitory agent or moiety as "a molecular entity (i.e., nucleus, atom, ion, molecule, compound, substance, or drug) capable of inhibiting restenosis by a mechanism, ***even if unknown***, distinct from that of emission of radioactivity" (Specification, p. 79, lines 4-8) (Emphasis added). The listing of this non-exacting reference and reference to the "unknown" is insufficient to meet the written description provision of 35 U.S.C. 112, first paragraph.

In short, the specification is lacking sufficient written description to support the genus disclosed in claim 14, because the restenosis-inhibiting moiety is not sufficiently and completely

disclosed. As a matter of law, an adequate written description requires more than a mere statement that the matter claimed is part of the invention accompanied by reference to potential compounds. Disclosure of the compound itself is required. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (CAFC 1993).

Claims 14-16 and 21-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claim 14 is drawn to a kit for inhibiting restenosis in a patient vessel where the kit also comprises, in pertinent part, an expanding tubular structure. However, the specification only discloses art to support a single expanding tubular structure, a stent. As a result, the specification does not provide a written description useful to any person skilled in the art to which it pertains, or with which it is most nearly connected.

Claims 14 and 23-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claim 25 is drawn, in pertinent part, to a kit that contains a linker moiety. The specification is written broadly, however, simply advising that the "linker *may* comprise a modified or unmodified biomolecule, an organic molecule, an inorganic molecule, or a

combination of biomolecules, organic molecules, or inorganic molecules" (Specification, p. 23, lines 15-18)(Emphasis added). The listing of this non-exacting is insufficient to meet the written description provision of 35 U.S.C. 112, first paragraph. Albeit linker moieties are known by skilled artisans in the chemical arts, generally, the specification should be clear as to what does and does not comprise a linker moiety for purposes of this invention.

In short, the specification is lacking sufficient written description to support the genus disclosed in claim 14, because the linker is not sufficiently and completely disclosed. As a matter of law, an adequate written description requires more than a mere statement that the matter claimed is part of the invention accompanied by reference to potential compounds. Disclosure of the compound itself is required. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (CAFC 1993).

Claim Rejections – 35 U.S.C. §103(a)

The following is a quotation of 35 U.S.C. §103(a), which forms the basis for all obviousness rejections set forth in this office action:

> (a) A patent may not be obtained through the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

For the purpose of examination herein, the pending claims are given their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343

F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969).

Expanding tubular structure is interpreted as a stent. Linker moiety is interpreted as comprising a modified or unmodified biomolecule, an organic molecule, an inorganic molecule, or a combination of biomolecules, organic molecules, or inorganic molecules.

Claims 14-16 and 19-23, and 28-35 are rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,924,973 5,871,436 [hereinafter referred to as "Eury"] in view of U.S. Patent No. 5,871,437 [hereinafter referred to as "Alt"] and in further view of U.S. Patent No. 5,873,811 [hereinafter referred to as "Wang et al"].

Eury teaches a method for providing a pre-selected dosage of radiation to a patient by inserting an expandable stent that is at least partially coated with a chelator, which has a selected covalent binding affinity for a pre-selected radioisotope or a linker moiety (Eury, Col. 4, lines 1-18, Col. 5, lines 24-29 and col. 6, lines 1-11, claims 1-3). Eury also teach that a base layer attached to the radioisotope affixed to the stent, with a linker moiety that is bonded to the base layer (Eury, Col. 6, lines 12-27, claim 4).

Eury also teaches that the stent claimed is "initially provided in a collapsed state and positioned about an inflatable balloon on the distal end of a catheter" (Eury, Col. 3, lines 50-53), and that the most preferable embodiment of his invention is a stainless steel stent, a gold base layer, with α,ω-mercaptoalkylamine as a spacer (or linker), N^1-(2-hydroxyethyl)-ethylenedramine-N,N,N^1 triacetic acid as a chelator and Ir^{192} as the radioisotope (Eury, Col. 4, lines 57-60).

While Eury does teach the inhibition of restenosis utilizing an expandable stent implanted via a catheter, said the stent being at least partially coated with a chelator with an chemical binding affinity for a radioisotope and/or linker moiety, Eury teaches neither this embodiment further comprising an agent that can selectively disrupt the binding pair that links the radioactive moiety to the stent or the first member of the binding pair, which is affixed to the stent, being immobilized to an expandable film lining the surface of the stent. However, the same is taught by Alt.

Alt teaches an as implanted, non-radioactive, expandable metallic or non-metallic stent coated with a biodegradable thin coating, wherein the coating contains multiple layers, including one layer with a radioactive source and a tight binding affinity for the surface of the stent (Col. 6, lines 66-67 and Col. 7, lines 1-4 and lines 24-27, Col. 8, lines 61-63). The layer closest to the stent surface contains the radioactive source, such as a radioactive phosphorus isotope that may be coupled to a nonresorbable and readily excretable substance, like insulin (Alt, Col. 8, lines 30-36), and the second layer incorporates an anti-coagulant substance to inhibit early thrombus formation (Col. 4, lines 65-67), such as prostaglandin derivatives, anti-adhesive peptides, etc. (Col. 3, lines 1-13). Finally, Alt discloses the incorporation of anti-proliferation substances into the coating carrier of the stent, noting that substances such as tamoxifen and other cytostatic drugs directly interfere with hyperplasia in a manner that enables them to slow or prevent restenosis, particularly when there is a slow release of the coating of the stent (Col. 3, lines 14-26).

Wang et al disclose teachings pertinent to the present invention not taught by Eury or Alt.

Wang et al teach a method and composition for use in inhibiting restenosis comprising an adhesive that contains biodegradable molecules capable of body adsorption over time (Col. 8, lines 8-12). The adhesive composition contains a radioactive material that is chemically bonded to, and therefore, a part of the adhesive (Col. 8, lines 13-16). The radioactive material can be Phosphorus 32, Yttrium 90, Iodine 125, Iridium 192 and mixtures of any or all of these (Col. 8, lines 17-21). In addition to containing radioactive material, the adhesive also contains polymeric material (Col. 8, lines 22-24). In addition to being chemically bonded to the adhesive, the radioactive material bonds to the polymeric material (Col. 8, lines 22-24). Wang et al also teach administration of the adhesive composition by catheter and the placement of a stent by the same means (Col. 7, lines 24-27 and Col. 8, lines 6-7). Wang et al also teach that chelation can be used to bind radioactive materials, and that "chemically bonded pendent phosphate groups having P-32 are within the scope of the invention" (Col. 6, lines 48-50 and 54-56).

One of ordinary skill in the art would be motivated to combine the teachings of Eury, Alt, and Wang, because each is related to the inhibition of restenosis utilizing stents and/or catheters. And those of ordinary skill in the art have long known the effective interrelationship of stent-catheter systems to treat stenosis. See generally, U.S. Patent No. 5,059,166 [hereinafter referred to as "Fischell et al"] and the references cited therein.

Absent any evidence to the contrary, in light of the foregoing, it would have been *prima facie* obvious to one of ordinary skill in the art that a kit which contained a stent made radioactive subsequent to implant in a patient vessel via catheter transportation, wherein the stent contained a radioactive component with a chelator containing the member of a binding pair with

the chemical affinity to bind its other member, which is bonded to a restenosis-inhibiting moiety would possess the capability to inhibit restenosis.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Hughes whose telephone number is 571-272-6026. The examiner can normally be reached from 9:00 AM to 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, can be reached at 571-272-0718. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR of Public PAIR. Status information for unpublished applications is available through Public PAIR only. For information about the PAIR system, see http://pair-direct-uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11 January 2007
ARH

Ardin H. Marschel 1/13/07
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SUPERVISORY PATENT EXAMINER